

Ilana and I affirm the resolution

Resolved: The United States federal government should enforce antitrust regulations on technology giants.

### Contention 1: Kill Zone

The raging growth of tech giants has stopped startups from flourishing in three ways.

1. Disincentivizing entry and expansion. [Galloway of Esquire in 2018](#) reports that the power of big tech scares competitors from entering the market. Indeed, he finds that startups are forced to pitch themselves as harmless to tech giants in order to survive.
2. Buying out competition. [The Economist in 2018](#) explains that 90% of startups are built for sale as the dominance of big tech companies has forced startups to shift their priorities from developing large platforms and trying to flourish to attracting big tech. Unfortunately, [Smith of Bloomberg in 2018](#) adds that big companies often leave acquired companies to simply wither on the vine post-acquisition, killing off their jobs.
3. Decreasing venture capital funding. [Smith of Bloomberg in 2018](#) writes that big tech has formed a kill zone where startups are prevented from growing, because they get bought out before they can flourish. Furthermore, [Doctrow in 2018](#) explains VC investors have had enough of lowball buyout offers. [Hathaway in 2018](#) quantifies this phenomenon, finding that the areas Amazon, Google, and Facebook dominate have seen venture-capital financing drop by as much as 40% per year due to tech dominance. [Solon of the Guardian in 2017](#) continues that the number of new startup launches is at a 30 year low. Stopping big tech from buying up firms solves by increasing VC investing to startups, as [Buchanan from Inc in 2015](#) writes that VC investment for tech startups roughly doubles the more that they mature.

Luckily, enforcing antitrust solves because [Feiner of CNBC reports in June](#) that the DOJ's antitrust chief has explained it will crack down on big tech giants, namely, with a focus on preventing mergers and acquisitions that are aimed at harming competition.

Preventing the consolidation of tech has two impacts.

1. Loss of innovation. [Otto of UMass Dartmouth in 2013](#) explains startups have less bureaucratic inertia and more directly benefit from their innovation, thus incentivizing more innovation. Indeed, [Duhigg of the New York Times in 2018](#) concludes that without the Microsoft lawsuit, today, we would happily be using Bing, unaware that a better alternative once existed. [Otto](#) concludes empirically that, products from startups exhibit more characteristics of innovation than those developed by incumbents. [Smith of Bloomberg in 2018](#) adds that big companies more often than not kill off or abandon the innovations that they acquire when they acquire startups. Innovation is key, as the [OECD](#)

explains, “Innovation is important to the advancement of society. New and innovative products have increased the standard of living and provided people with opportunities to improve their lives. Breakthroughs in medicine and technology have had dramatic impact to individuals and communities alike.”

2. Jobs. [TechCrunch in 2011](#) explains that because big tech companies operate on economies of scale, they’ve become ruthlessly good at killing jobs. [Pool of ScienceProgress in 2011](#) quantifies that nearly all net job creation in the economy comes from startups, while tech giants tend to lose net jobs. Indeed, Mitchell of ISLR finds that decreased startup growth due to consolidation contributed to a 66% in the number of jobs created in an analysis of 2000 to 2007. That’s why [Galloway of NYU](#) in 2017 concludes that “we’ve never seen anyone as good at destroying jobs [as] Amazon, Apple, Facebook, and Google.” Fortunately, allowing startups to flourish reverses this. ITIF in 2017 finds that tech based startups (those which are 10 years old or younger) are have the highest employment multipliers—one tech-based job creates five jobs in other industries. The longer that tech startups are allowed to flourish and the more that tech startups are created the more that jobs will increase. Overall, the [2007 Census](#) reveals that young firms created 8 million jobs in 2007 alone.

Thus we affirm

## Cards

Scott Galloway, 2-8-2018, "Why Amazon, Apple, Facebook, and Google Need to Be Disrupted," Esquire, <https://www.esquire.com/news-politics/a15895746/bust-big-tech-silicon-valley/> Indeed, the DOJ’s case against Microsoft may have been one of the most market-oxygenating acts in business history, one that unleashed trillions of dollars in shareholder value. The concentration of power achieved by the Four has created a market desperate for oxygen. I’ve sat in dozens of VC pitches by small firms. The narrative has become universal and static: “We don’t compete directly with the Four but would be great acquisition candidates.” Companies thread this needle or are denied the requisite oxygen (capital) to survive infancy. IPOs and the number of VC-funded firms have been in steady decline over the past few years.

Scott Galloway, 2-8-2018, "Why Amazon, Apple, Facebook, and Google Need to Be Disrupted," Esquire, <https://www.esquire.com/news-politics/a15895746/bust-big-tech-silicon-valley/>

The Four's unchecked power manifests most often as a restraint of competition. Consider: Amazon has become such a dominant force that it's now able to perform Jedi mind tricks and inflict pain on potential competitors before it enters the market. Consumer stocks used to trade on two key signals: the underlying performance of the firm (Pottery Barn's sales per square foot are up 10 percent) and the economic macro-climate (more housing starts). Now, however, private and public investors have added a third key signal: what Amazon may or may not do in the respective sector. Some recent examples: The day Amazon announced it would enter the dental-supply business, dental-supply companies' stock fell 4 to 5 percent. When Amazon reported it would sell prescription drugs, pharmacy stocks fell 3 to 5 percent.

Surowiecki, MIT Technology Review, in 2016

<https://www.technologyreview.com/s/601497/why-startups-are-struggling/>

But there is a catch. While Stern and Guzman show that high-growth firms are being formed as actively as ever, they also find that these companies are not *succeeding* as often as such companies once did. As the researchers put it, "Even as the number of new ideas and potential for innovation is increasing, there seems to be a reduction in the ability of companies to scale in a meaningful and systematic way." As many seeds as ever are being planted. But fewer trees are growing to the sky.

Stern and Guzman are agnostic about why this is happening. But one obvious answer suggests itself: the increased power of established incumbents. We may think that we have been living in a business world in which incumbents are always on the verge of being toppled and competitive advantage is more fragile than ever. And clearly there are industries in which that has been the case—think of how Amazon transformed book retailing, or how digital downloads and streaming disrupted the music business. But as Hathaway and Litan document, American industry has grown more

concentrated over the last 30 years, and incumbents have become more powerful in almost every business sector. As they put it, “it has become increasingly advantageous to be an incumbent, and less advantageous to be a new entrant.” Even in tech, the contrast is striking between the ferment of the late 1990s, when many sectors had myriad players struggling for share, and the seeming stability of today’s Google/Amazon/Facebook-dominated world.

In the short run, this may not seem like that big a deal. After all, Google, Amazon, and Facebook are all investing heavily in R&D, and they seem as interested in pursuing moon shots as incremental innovations. These companies are also continuing to hire at a fast pace. In the long run, though, the U.S. economy needs more startups that make the leap to high-growth success, both because of the key role they play in creating new jobs and because of the way they help propel technological innovation. A 2010 study, for instance, found that incumbents tended to invest in R&D that exploited existing technologies and in incremental innovations, while startups focused more on new technologies and radical innovation. Similarly, an earlier Kauffman Foundation report noted that new companies were “more likely to enter the market with cutting-edge innovations.”

That means we don’t want the future of technology to depend on the investing decisions of a handful of giant companies. We want it to emerge out of a robust ecosystem of incumbents and startups. The story of the U.S. economy over the past century has been one of technological dynamism. Figuring out ways to foster

competition and create opportunities for transformational entrepreneurs is the best way to ensure that the story of the next century isn't one of stagnation.

Noah Smith, 11-7-2018, "Big Tech Sets Up a 'Kill Zone' for Industry Upstarts," Bloomberg,

<https://www.bloomberg.com/opinion/articles/2018-11-07/big-tech-sets-up-a-kill-zone-for-industry-upstarts>

People in the industry are starting to worry about this phenomenon. O'Reilly Media founder Tim O'Reilly talks of big tech companies "eating the ecosystem." Others are talking about a "kill zone," where new and innovative upstarts are throttled. For some startup founders, acquisition by a big company is the dream — they're happy to walk away with a small fortune and move on to the next stage of their careers. But there's a danger that big companies, being less emotionally invested in the companies they acquire, will leave them to wither on the vine.

Olivia Solon, 10-20-2017, "As tech companies get richer, is it 'game over' for startups?," Guardian,

<https://www.theguardian.com/technology/2017/oct/20/tech-startups-facebook-amazon-google-apple>

As those companies get more powerful and staff salaries get higher, there's even less of an incentive for workers to leave and set up on their own, which used to be a common pathway for entrepreneurs. If they do leave, the endgame is often to be acquired by their previous employer rather than grow large enough to compete with it.

"If your strategy from the outset is to be acquired by Google, that's just fueling consolidation," said Ian Hathaway, an economist at the Brookings Institution.

Jonathan Frankel was thrilled when Amazon's investment arm funneled \$5.6m into his startup Nucleus after a year of discussions. He was less thrilled when, a year later, Amazon launched its latest voice-controlled device, the Echo Show: an almost perfect clone of the Nucleus product.

Ian Hathaway, 10-12-2018, "Platform Giants and Venture-Backed Startups," <http://www.ianhathaway.org/blog/2018/10/12/platform-giants-and-venture-backed-startups>

To start, it's clear—especially in the most recent years—that the detailed industries with a primary FGA presence are witnessing a remarkable contraction in companies entering the venture-backed pipeline. So, what does this all mean?

At minimum, it's a rebuke of Oliver Wyman's claim that there is "no evidence" of a negative impact on venture investment in "technology" due to the presence (or conduct) of FGA platforms. I would say there is at least "some evidence" to that effect and that's probably an overly conservative stance. The Oliver Wyman study is flawed because it grouped all "technology" activities together, and so doing, obscured the underlying deterioration of new company activities in core FGA sectors. Instead, the numbers were being driven by growth in other areas of information technology.

### Taneja, Fortune, 2018

<http://fortune.com/2018/04/02/tech-monopolies-small-businesses-competition/>

However, the arguments about innocent monopolies and consumer benefits ignore a mushrooming danger to small businesses—and U.S. job growth. Tech startups, corner shops, new restaurants—these are significant engines of the U.S. economy. Small firms accounted for 64% of all new jobs generated from 1993 to 2011, according to the Small Business Administration. But by every measure, business creation is falling. **The rate of Americans deciding to become entrepreneurs has been steadily decreasing**, according to the Kauffman Foundation. Since 2008, The Brookings Institution found, **firm creation rates have been below business death rates**—the first time that's happened since the data began being collected in the 1970s. If business creation is falling, and small businesses drive job growth, the likely outcome is that jobs will dwindle away. If tech startups get suppressed, the U.S. economy sees less innovation come to market, which could leave us falling behind other nations in critical areas like artificial intelligence and health care technology.

Solman, 1-17-2019, "Why tech industry monopolies could be a 'curse' for society," PBS NewsHour,

<https://www.pbs.org/newshour/show/why-tech-industry-monopolies-could-be-a-curse-for-society>

PAUL SOLMAN: Twenty years ago, as we reported back then, the kill zone was around Microsoft.

Silicon Valley antitrust lawyer Gary Reback had represented nearly all of Microsoft's major rivals.

GARY REBACK, Attorney: They can take any product they want, bundle it into the operating system,

and put competition out of business.

PAUL SOLMAN: That's what Microsoft had done with its Internet browser.

CHRISTINE VARNEY, Attorney: When you click on that Internet icon, you're going to get what Microsoft considers the best way for you to get to the Internet, which is the Internet explorer that's produced by Microsoft.

PAUL SOLMAN: By bundling Explorer into the Windows operating system for free, Microsoft, according to Netscape, was competing unfairly with Netscape's browser, called Navigator.

TIM WU: Microsoft was the power of convenience, 1990s version.

Charles Duhigg, 2-20-2018, "The Case Against Google," No Publication,

<https://www.nytimes.com/2018/02/20/magazine/the-case-against-google.html>

Oil a century ago. "All of the money spent online is going to just a few companies now," says Reback (who disdains the New Brandeis label). "They don't need dynamite or Pinkertons to club their competitors anymore. They just need algorithms and data." Reback had told Adam and Shivaun that it was important for them to keep up their fight, no matter the setbacks, and as evidence he pointed to the Microsoft trial. Anyone who said that the 1990s prosecution of Microsoft didn't accomplish anything — that it was companies like Google, rather than government lawyers, that

humbled Microsoft — didn't know what they were talking about, Reback said. In fact, he argued, the opposite was true: **The antitrust attacks on Microsoft made all the difference. Condemning Microsoft as a monopoly is why Google exists today, he said.** Surprisingly, some people who worked at Microsoft in the 1990s and early 2000s agree with him. In the days when federal prosecutors were attacking Microsoft day and night, the company might have publicly brushed off the salvos, insiders say. But within the workplace, the attitude was totally different. As the government sued, Microsoft executives became so anxious and gun-shy that they essentially undermined their own monopoly out of terror they might be pilloried again. It wasn't the consent decrees or court decisions that made the difference, according to multiple current and former Microsoft employees. It was "the constant scrutiny and being in the newspaper all the time," said Gene Burrus, a former Microsoft lawyer. "People started second-guessing themselves. No one wanted to test the regulators anymore." Some legal theorists think that Google might have a point. "To what extent are consumers, rather than competitors, being harmed by Google?" says Hovenkamp, the antitrust scholar. "If the answer is 'not much,' then I'm suspicious of an antitrust remedy." Others say the risks are too high. "There are very real costs associated with suing a company like Google," says Geoffrey Manne, executive director of the International Center for Law & Economics, a nonpartisan research center.

**"You're potentially impairing a firm that provides vital services to millions of people, and potentially benefiting competitors who don't deserve that support."** Those are fair arguments. But they are also, in some ways, beside the point. Antitrust has never been just about costs and benefits or fairness. It's never been about whether we love the monopolist. People loved Standard Oil a century ago, and Microsoft in the 1990s, just as they love Google today. Rather, antitrust has always been about progress. Antitrust prosecutions are part of how technology grows. **Antitrust laws ultimately aren't about justice, as if success were something to be condemned; instead, they are a tool that society uses to help start-ups build on a monopolist's breakthroughs without, in the process, being crushed by the monopolist.** And then, if those start-ups prosper and make discoveries of their own, they eventually become monopolies themselves, and the cycle starts anew. If Microsoft had crushed Google two decades ago, no one would have noticed. **Today we would happily be using Bing, unaware that a better alternative once existed.** Instead, we're lucky a quixotic antitrust lawsuit helped to stop that from happening. We're lucky that antitrust lawyers unintentionally guaranteed that Google would thrive.

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The Economist in 2017

Print Edition, xx-xx-xxxx, "American tech giants are making life tough for startups," Economist, <https://www.economist.com/business/2018/06/02/american-tech-giants-are-making-life-tough-for-startups>

IT IS a classic startup story, but with a twist. Three 20-somethings launched a firm out of a dorm room at the Massachusetts Institute of Technology in 2016, with the goal of using algorithms to

predict the reply to an e-mail. In May they were fundraising for their startup, EasyEmail, when Google held its annual conference for software developers and announced a tool similar to EasyEmail's. Filip Twarowski, its boss, sees Google's incursion as "incredible confirmation" they are working on something worthwhile. **But he also admits that it came as "a little bit of a shock". The giant has scared off at least one prospective backer of EasyEmail, because venture capitalists try to dodge spaces where the tech giants might step.** The behemoths' annual conferences, held to announce new tools, features, and acquisitions, always "send shock waves of fear through entrepreneurs", says Mike Driscoll, a partner at Data Collective, an investment firm. "Venture capitalists attend to see which of their companies are going to get killed next." But anxiety about the tech giants on the part of startups and their investors goes much deeper than such events. Venture capitalists, such as Albert Wenger of Union Square Ventures, who was an early investor in Twitter, now talk of a "kill-zone" around the giants. Once a young firm enters, it can be extremely difficult to survive. Tech giants try to squash startups by copying them, or they pay to scoop them up early to eliminate a threat.

Asher Schechter, 5-25-2018, "Google and Facebook's "Kill Zone": "We've Taken the Focus Off of Rewarding Genius and Innovation to Rewarding Capital and Scale" -, " No Publication, <https://promarket.org/google-facebooks-kill-zone-weve-taken-focus-off-rewarding-genius-innovation-rewarding-capital-scale/>

The sentiment that startups effectively have no chance of competing against the "Big Five" tech giants—Alphabet, Amazon, Apple, Facebook, and Microsoft—is one that has become increasingly common among tech entrepreneurs and venture capitalists in recent years. "People are not getting funded because Amazon might one day compete with them," one founder told The Guardian. "If it was startup versus startup, it would have been a fair fight, but startup versus Amazon and it's game over." As the author and media scholar Jonathan Taplin pointed out in an interview with ProMarket, the very notion that someone could start a new search engine that competes with Google "is just laughed at by the venture capital community."

Lauren Feiner, xx-xx-xxxx, "The DOJ's antitrust chief just telegraphed exactly how it could go after Google, Apple and other big tech companies," CNBC, <https://www.cnbc.com/2019/06/11/makan-delrahim-speech-lays-groundwork-for-antitrust-versus-big-tech.html>



# The DOJ's antitrust chief just telegraphed exactly how it could go after Google, Apple and other big tech companies

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## KEY POINTS

- Assistant Attorney General Makan Delrahim laid out some possible antitrust arguments against big tech in a new speech in Tel Aviv on Tuesday.
- The speech clarifies some potential arguments the Department of Justice may be pursuing as it reportedly eyes probes into Apple and Google parent company Alphabet.
- Among those arguments: if a company makes an acquisition or other move for “no economic sense” but simply to harm competitors, that could be a violation.

Contributor, 11-18-2011, "Here In Silicon Valley, Are We Killing Jobs And Making The Rich Richer? – TechCrunch," TechCrunch,

<https://techcrunch.com/2011/11/18/silicon-valley-killing-jobs/>

Think about it. The success of most tech companies' products is predicated on delivering scale and efficiency, also known as the ability to do more with less. That “more” typically means more wealth generated. And that “less” typically means with less and/or less expensive labor. In other words, the primary export for many Silicon Valley companies can be simplified down to labor substitution. In the near term, there are a variety of unfortunate ways in which this is manifesting itself as a social fabric-eroding, wealth-concentrating job killer. For the future? I believe there is a different story.

In one of his most insightful blog posts, Josh Kopelman outlined a philosophy that powers many of today's most successful technology-enabled retail and services companies. Put simply: If you can enter a big market where the incumbents charge a lot for their product, yet you can sell an equivalent or better product for less, then you've changed the game and shrunk the market. This scenario has been replayed a hundred times over in movie rentals, bookstores, record stores, and so on. With the disappearance of each of these bricks and mortar stalwarts, tens of thousands of positions have been made obsolete in a matter of years. All the wealth in these

markets has been shrunk to a fraction of what it was before. And what wealth remains has been redistributed to a smaller number of people. Sound familiar? Job losses. Growing income gap. Check and check.

Sean Pool, 9-8-2011, "Creating Jobs by Investing in Innovation," No Publication,  
<https://scienceprogress.org/2011/09/creating-jobs-by-investing-in-innovation/>

In the 21st century, innovation is what produces wealth and creates jobs. The Kauffman Foundation finds that nearly all net job creation in the economy comes from innovative startup firms that are less than five years old. Meanwhile older, larger firms tend to shed net jobs on average. They went so far as to call such innovative businesses “almost solely the drivers of growth” in the economy. Meanwhile, the Department of Commerce found that innovation leads to higher wages; average compensation per employee in innovation-intensive sectors of the economy increased nearly two and a half times faster than the national average between 1990 and 2007.

Dane Stangler, 5-1-2011, "Where Will the Jobs Come From?," No Publication,

<https://www.kauffman.org/what-we-do/research/firm-formation-and-growth-series/where-will-the-jobs-come-from>

This analysis of the 2007 Census data shows that young firms account for roughly two-thirds of job creation, averaging nearly four new jobs per firm per year. Of the overall 12 million new jobs added in 2007, young firms were responsible for the creation of nearly 8 million of those jobs.

## ITIF, 2017

<http://www2.itif.org/2017-technology-based-start-ups.pdf>

These indirect and induced job creation effects—known as the job multiplier effect—arise because the lion’s share of technology-based industries operate in traded sectors: sectors that sell most of their output outside their local region or even nation. This contrasts with non-traded sectors, such as dry cleaners and barber shops, which sell their output to local residents. These local sectors have very low job multipliers because their expansion normally comes at the expense of market share of another local business, rather than bringing new spending into the local economy.

**Technology-based traded sectors have the highest employment multipliers**, followed by other industries in traded sectors, while non-traded sectors show the lowest multiplier. 22 Economist Enrico Moretti estimates that **technology-based start-ups have a job multiplier of five—for every direct job created by a technology-based enterprise, five additional jobs are created elsewhere**. 23 A Massachusetts Biotechnology Council white paper estimated that each new bio-tech job created in and around Boston’s strong bio-tech start-up ecosystem generated five indirect jobs in the region. 24 For comparison, each job in manufacturing (a traded sector) supports three indirect jobs, while each job in the food and beverage industry (a non-traded sector) supports up to one indirect job. 25

Drew Millard, xx-xx-xxxx, "Tech companies won’t save your local economy," Outline,

<https://theoutline.com/post/6672/tech-companies-dont-help-the-economy-but-they-may-very-well-sink-it>

Still, the myth of huge tech companies driving economic growth is a pervasive one. This may have to do with the fact that from 2009 until this August, just four stocks — Facebook, Amazon, Netflix, and Google — provided, per the finance publication The Motley Fool, “half of the S&P

500's year-to-date-gains.” In other words, tech companies have played a massive role in creating the sort of hollow economic growth that is post-Recession America's specialty, and have found themselves in the too-big-to-fail position of being the only thing standing between us and another recession.



While my model is slightly imprecise, the alignment is alarming — especially when you dig into the actual dates. Amazon stock hit its peak in late September, after which it declined and has yet to recover. Google, meanwhile, began sinking in early October. The S&P, meanwhile, began declining along with Google before all three started dropping precipitously on October 9. Given the public's mounting distaste for Big Tech, it's unsurprising that such companies' stock prices have declined and dragged the S&P along with them. (If it's the S&P that's actually dragging them down, that would be a good thing — it would mean that four companies aren't holding the entire economy hostage.)

### **Georgieva, World Bank, July 2018**

<https://blogs.worldbank.org/voices/investing-prevention-new-world-bank-group-approach-crisis>

His words ring true today, as we face global crises – natural disasters, pandemics, violent conflicts, financial crises, and more – that hit rich and poor countries alike, and have lasting consequences especially for the world's most vulnerable people. They can take the lives of millions of people and cost the world trillions of dollars in damages and lost potential. When crisis hits, it makes headlines. Recall the 2013-2015 Ebola outbreak in West Africa, which took 11,000 lives and cost \$2.2 billion in economic damage. Or **the 2008-2009 financial crisis, which pushed an estimated 64 million people into poverty.** Fragile countries feel the impacts even more acutely—with limited institutional capacity and resources, a single catastrophe can make the effects of others significantly worse. The world simply cannot afford to continue down this road.

The Economist 18

<https://outline.com/yrBFBf>

There are some exceptions. Airbnb, Uber, Slack and other “unicorns” have faced down competition from incumbents. But they are few in number and many startups have learned to set their sights on more achievable aims. Entrepreneurs are “thinking much earlier about which consolidator is going to buy them”, says Larry Chu of Goodwin Procter, a law firm. The tech giants have been avid acquirers: Alphabet, Amazon, Apple, Facebook and Microsoft spent a combined \$31.6bn on acquisitions in 2017. This has led some startups to be less ambitious. “Ninety per cent of the startups I see are built for sale, not for scale,” says Ajay Royan of Mithril Capital, which invests in tech.

**Buchanan, Inc, May 2015**

<https://www.inc.com/magazine/201505/leigh-buchanan/the-vanishing-startups-in-decline.html>

In 2014, VC firms invested \$48 billion in deals, the most since 2000. **But professional investors have showered more love on mature companies than on infants.** Research by Mattermark, which tracks startup data, shows that between 2005 and 2014 **the size of seed investments made by VCs stayed flat. The size of C, D, and E rounds**, by contrast, **roughly doubled**. The number of small seed rounds has recently dropped, according to PitchBook, with investments below \$500,000 declining 61 percent between the first quarter of 2013 and the fourth quarter of 2014. Below the VC level, angels and seed funds have proliferated as startup costs have decreased. But even angels’ interest in fledglings is down.

**Guzman, MIT, 2016**

<http://static1.squarespace.com/static/53d52829e4b0d9e21c9a6940/t/56d9a05545bf217588498535/1457102936611/Guzman+Stern+---+State+of+American+Entrepreneurs+hip+FINAL.pdf>

Second, while the peak value of U.S. RECI is recorded in 2000, the overall level during the first decade of the 2000s is actually higher than the level observed between 1990 and 1995, and we additionally observe a sharp upward swing beginning in 2010. Even after controlling for change in the overall size of the economy, the third highest level of entrepreneurial growth potential is registered in 2014. Finally, there is striking variation over time in **the likelihood of start-up firms for a given quality level to realize their potential** <sup>(REAI)</sup>: **REAI declined sharply in the late 1990s, and did not recover through 2008.** <sup>Though preliminary projections show some improvement after 2009, whether the most recent cohorts are able to realize their potential at rates similar to those achieved during the mid-1990s is yet to be seen</sup>

**Guzman, MIT, 2016**

<http://static1.squarespace.com/static/53d52829e4b0d9e21c9a6940/t/56d9a05545bf217588498535/1457102936611/Guzman+Stern+---+State+of+American+Entrepreneurs+hip+FINAL.pdf>

Policies that implicitly treat all firms as equally likely candidates for growth are likely to expect “too much” from the vast majority of firms with relatively low growth potential, and might be focusing on a lever that is only weakly related to the economic growth they often seek. Second, **the striking decline in REAI after the boom period of the 1990s is** the first **independent evidence** for an often-cited concern of practitioners – **even as the number of new ideas and potential for innovation is increasing, there seems to be a reduction in the ability of companies to scale in a meaningful and systematic way.** Whether this is primarily a challenge for capital markets, or reflects systematic reductions in various aspects of ecosystem efficiency remains an important challenge for future research.

**Guzman, MIT, 2016**

<http://static1.squarespace.com/static/53d52829e4b0d9e21c9a6940/t/56d9a05545bf217588498535/1457102936611/Guzman+Stern+--+State+of+American+Entrepreneurs+hip+FINAL.pdf>

As such, we will use RECPI relative to GDP (or “U.S. RECPI”) as our primary measure of the potential for growth entrepreneurship for a given start-up cohort. **REAI, on the other hand, measures the ratio between the realized number of growth events for a given start-up cohort and the expected number of growth events for that cohort (i.e., RECPI). REAI offers a measure of whether the “ecosystem” in which a start-up grows is conducive to growth** (or not), and allows variation in ecosystem performance across time and at an arbitrary level of geographic granularity.

**Mitchell, Stacy.** August 2016. “Monopoly Power and the Decline of Small Business.” Institute for Local Self-Reliance.

<https://ilsr.org/wp-content/uploads/downloads/2016/08/MonopolyPower-SmallBusiness.pdf>

**Consolidation is also impairing the U.S. economy’s ability to create jobs. During the expansion of 2000 to 2007, the United States created one-third as many jobs as during the previous expansion, in the 1990s.<sup>82</sup> One likely culprit is the sharp drop-off in the number of startups. “New and young companies are the primary source of job creation in the American economy,” observe Jason Wiens and Chris Jackson of the Ewing Marion Kauffman Foundation, citing data showing that recent startups account for nearly all net job growth.<sup>83</sup> Today’s economy is marked by worrisome structural problems, they write, including “high rates of unemployment and underemployment, and a ‘missing generation’ of firms”—businesses that would have been created had startup rates kept pace. They add, “These factors are a drag on the economy, sapping dynamism.”<sup>84</sup>**

#### **Tech Start-Ups create more jobs and use R&D spending better**

**Wu, November 2017, ITIF** <http://www2.itif.org/2017-technology-based-start-ups.pdf> //JF

Two dynamics work in tandem to produce outsized employment effects among these startups. First, **firms in technology-based sectors are better at translating their R&D investments into job growth.** Second, **technology-based start-ups account for a higher share of net job creation than other start-ups.** Firms in technology-based industries are better than those in other industries at translating their R&D investments into jobs. In a discussion paper from the Institute of Labor Economics in Bonn, Germany, economists analyze the relationship between employment growth and R&D investments in high-tech, medium-tech, and low-tech firms across the European Union. The study found that **firms in high-tech industries create 30 percent more jobs than firms in medium-tech industries for the same percentage increase in R&D investment.** <sup>10</sup> A study that analyzed the employment effects of technology-based firms in Belgium from 2001 to 2008 found that technology-based firms grow employment faster than did other firms. In other words, **when looking at the top 10 percent of technology-based firms in terms of employment growth and comparing that to the equivalent top 10 percent of other firms in the economy, technology-based firms have higher employment growth rates (approximately 10 percentage points higher).** This trend remains consistent across the rest of the employment growth range, with the slowest-growing 10 percent of technology-based firms growing employment 7 percentage points higher than the slowest-growing 10 percent of all other firms. <sup>11</sup> An

analysis of Spanish firms that invested in R&D between 2004 to 2010 returned similar findings: R&D intensity has an effect on employment growth, but only for high-growth and start-up firms. 12 On average, technology-based start-ups increase their employment much faster than do start-ups generally. 13 Ian Hathaway of the Kauffman Foundation analyzed the employment growth rates of start-ups in 14 technology-based industries compared to other new businesses from 1990 to 2011. 14 He found that **technology-based firms from one to five years old created twice as many net jobs as all firms in the same age group**. While all of these young firms economy-wide increased employment by just under 6 percent year-after-year, the young technology-based firms increased employment by almost 12 percent. 15 Examining technology-based firms aged from six to ten, this magnitude increased to a factor of three, in part because so many start-ups in non-technology-based sectors don't survive to year ten. Strong job creation by technology-based start-ups is likely to continue due to the fact that technology-based industries have increased their share of the economy's output year-after-year. In 1980, technology-based industries comprised 10 percent of U.S. GDP, with this share increasing to just above 14 percent by 2016.

Not flourishing

Surowiecki, MIT Technology Review, in 2016

<https://www.technologyreview.com/s/601497/why-startups-are-struggling/>

While [the data shows ] that tech startups are being formed as actively as ever, they also find that these companies are not *succeeding* as often as such companies once did. As the researchers put it, “Even as the number of new ideas and potential for innovation is increasing, there seems to be a reduction in the ability of companies to scale in a meaningful and systematic way.” As many seeds as ever are being planted. But fewer trees are growing to the sky.

Stern and Guzman are agnostic about why this is happening. But one obvious answer suggests itself: the increased power of established incumbents. We may think that we

have been living in a business world in which incumbents are always on the verge of being toppled and competitive advantage is more fragile than ever. And clearly there are industries in which that has been the case—think of how Amazon transformed book retailing, or how digital downloads and streaming disrupted the music business. But as Hathaway and Litan document, American industry has grown more concentrated over the last 30 years, and incumbents have become more powerful in almost every business sector. As they put it, “it has become increasingly advantageous to be an incumbent, and less advantageous to be a new entrant.” Even in tech, the contrast is striking between the ferment of the late 1990s, when many sectors had myriad players struggling for share, and the seeming stability of today’s Google/Amazon/Facebook-dominated world.

In the short run, this may not seem like that big a deal. After all, Google, Amazon, and Facebook are all investing heavily in R&D, and they seem as interested in pursuing moon shots as incremental innovations. These companies are also continuing to hire at a fast pace. In the long run, though, the U.S. economy needs more startups that make the leap to high-growth success, both because of the key role they play in creating new jobs and because of the way they help propel technological innovation. A 2010 study, for instance, found that incumbents tended to invest in R&D that exploited existing technologies and in incremental innovations, while startups focused more on new technologies and radical innovation. Similarly, an earlier Kauffman Foundation report noted that new companies were “more likely to enter the market with cutting-edge innovations.”



That means we don't want the future of technology to depend on the investing decisions of a handful of giant companies. We want it to emerge out of a robust ecosystem of incumbents and startups. The story of the U.S. economy over the past century has been one of technological dynamism. Figuring out ways to foster competition and create opportunities for transformational entrepreneurs is the best way to ensure that the story of the next century isn't one of stagnation.

## Kill zone

Noah Smith, 11-7-2018, "Big Tech Sets Up a 'Kill Zone' for Industry Upstarts," Bloomberg,

<https://www.bloomberg.com/opinion/articles/2018-11-07/big-tech-sets-up-a-kill-zone-for-industry-upstarts>

Do kill zones really exist? Researchers have been trying to answer that question. Facebook commissioned a study by consultant Oliver Wyman that concluded that venture investment in the technology sector wasn't lower than in other sectors, which led Wyman to conclude that there was no kill zone.

But economist Ian Hathaway noted that looking at the overall technology industry was too broad. Examining three specific industry categories — internet retail, internet software and social/platform software, corresponding to the industries dominated by Amazon, Google and Facebook, respectively — Hathaway found that initial venture-capital financings have declined by much more in the past few years than in comparable industries. That suggests the kill zone is real.

Tepper, Bloomberg, 2018

<https://www.bloomberg.com/opinion/articles/2018-11-26/tech-monopolies-strangle-economic-growth>

In an influential paper, Titan Alon and his colleagues found that the age of a company plays a key role in shaping the dynamics of labor productivity growth. If new companies can survive their startup phase, they show productivity growth of roughly 20 percent in the first five years of operation.



When monopolists stamp out startups, they kill productivity in the economy. In fact, if you look at the decline in high-growth entrepreneurship in high tech, it coincides with the decline in aggregate productivity growth in the sector.

In their book "Big is Beautiful," Robert Atkinson and Michael Lind show that large companies spend the most on research and development. Historically, giants like AT&T or IBM could pay for large research centers like Bell Labs or Yorktown. Today, large companies are still the biggest spenders; DuPont and Google can dedicate a lot of money to R&D. But this is only half the story. In a study, Zoltan Acs and David Audretsch discovered that companies in highly concentrated industries spent less on R&D. They found that "the total number of innovations is inversely correlated with concentration" and that *monopoly power deters innovation*. They concluded, "Innovation falls as industrial concentration increases."

Not only are we getting fewer startups, big companies are also gobbling up small ones and killing them off. Today, many of the new tech startups never get the chance to compete.

Google, Amazon, Apple, Facebook and Microsoft have bought more than 500 companies in the past decade. These giants are looking for the younger fast growers.

You can see how big companies kill productivity by looking at Google and the field of robotics. In 2013 Google acquired Boston Dynamics, as well as eight other companies, to create a new robotics division called Replicant. The robotics industry was excited that the 800-pound gorilla in technology was throwing money around. However, it turned into a disaster.

Over time, Google shut many of the companies down and the top researchers left. Jeremy Conrad, a partner at hardware incubator Lemnos Labs, said, "These were some of the most exciting robotics companies, and they're just gone." Google was really in the business of selling internet ads.

Creativity can stagnate when businesses become monopolies. Frederic Scherer of Harvard University has examined the patents of monopolists and shown that as firms become dominant, the number of important patents declines.